

### **Remarks**

Claims 1-5, 7-12, 14, 19-26 and 28-31 will be pending upon entry of this amendment. Claims 1-5, 7-12, 14, 19-26 and 28-31 presently stand rejected. Claims 6, 13, 15-18 and 27 are cancelled. Entry of this amendment and reconsideration of the pending claims are respectfully requested.

### *Claim Rejections – 35 U.S.C. § 103*

#### Claims 1-2, 9-12, 19, and 24-26

Claims 1-2, 9-12, 19 and 24-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,557,686 to Brown et al. in view of Japanese App. No. 07-303209 to Sasaki et al. and U.S. Patent No. 5,229,764 to Matchett.

Independent claim 1 recites that the system comprises "a data interception unit configured to intercept inputs from a user that are directed to an application other than a user authentication application." In Brown, there is no disclosure or teaching that intercepted inputs are directed to an application other than a user authentication application.

Sasaki and Matchett fail to provide for this deficiency. Sasaki does not, as best understood, disclose the passive interception of data directed by the user to an application other than a user authentication application. Rather, Sasaki merely discloses the active collection and use of a pattern of mouse clicking or mouse motion as a password or part of a password itself. See Sasaki, [0014] and [0045], disclosing in part that "...it can use man's habit (biometrics), i.e., the clicking timing pattern of a mouse button, and the movement-trace pattern of a mouse for the password..." (translated from Japanese). See also Sasaki FIG. 3, illustrating an example of the data format composition of a password data group, which includes the mouse movement data as a component of the password.

Matchett fails to disclose the interception of information that the user directed toward an application other than an authentication application. Rather, Matchett discloses the use of data the user directed solely toward an authentication application, if any application at all, as the data is collected by the computer system for the sole purpose of user authentication. Accordingly,

applicant respectfully submits that the Brown/Sasaki/Matchett combination fails to disclose or even teach all the features of independent claim 1.

Independent method claim 9 recites "receiving...data associated with movement of a computer mouse in supplying data to a user application other than an authentication application." Brown contains no disclosure or teaching that data is associated with the movement of a mouse supplying data to an application other than the authentication application, and, as indicated above, Sasaki and Matchett fail to provide for this deficiency. Accordingly, applicant respectfully submits that the Brown/Sasaki/Matchett combination fails to disclose or even teach all the features of independent method claim 9.

Independent system claim 25 recites "a data interception unit configured to intercept inputs from a user that are directed to a user application other than an authentication application." In Brown, there is no disclosure or teaching that intercepted inputs are directed to a user application other than a user authentication application, and, as indicated above, Sasaki and Matchett fail to provide for this deficiency. Accordingly, applicant respectfully submits that the Brown/Sasaki/Matchett combination fails to disclose or even teach all the features of independent system claim 25.

Independent system claim 26 recites "a data interception unit for receiving inputs from a user that are directed to a user application other than an authentication application." In Brown, there is no disclosure or teaching that inputs received from the user are directed to a user application other than an authentication application, and, as indicated above, Sasaki and Matchett fail to provide for this deficiency. Accordingly, applicant respectfully submits that the Brown/Sasaki/Matchett combination fails to disclose or even teach all the features of independent system claim 26.

For at least these reasons, independent claims 1, 9, 25 and 26 are allowable. Claims 2-5, 7, 8, 10-12, 14, 19-24 and 28-31 each depend from one of these independent claims and are thus allowable for at least the same reasons, as well as for the respective additional features recited therein.

### Claim 2

Furthermore, claim 2 is allowable over Brown in view of Sasaki and Matchett because the prior art combination does not teach a system which is "suitably configured for real-time monitoring." The Office action argues that Brown (Col. 13, lines 52-55) teaches a system that is suitably configured for real-time monitoring. Applicant disagrees. Lines 52-55 teach a system in which "a system operator can be notified that a user has not passed the keystroke test...." This does not disclose real-time operation, as the system may notify the operator at any point after failure of the keystroke test. Brown is simply silent as to real-time monitoring. Thus, Brown fails to teach this element of claim 2. The remainder of the Brown/Sasaki/Matchett combination similarly fails to teach this element of this claim. For at least this reason, claim 2 is thus properly allowable. Claim 3 depends from this claim and is thus allowable the same reason, as well as for the additional features recited therein.

### Claim 12

Furthermore, claim 12 is allowable over Brown in view of Sasaki and Matchett because the prior art combination does not teach a method comprising "developing the signature in real-time." The Office action argues that Brown (Col. 14, lines 7-18) teaches a system that is suitably configured for collecting, processing and developing the signature in real-time. Applicant disagrees. Lines 7-18 teach a system which updates the user signature based on each successful password entry. This does not disclose real-time operation, as the system need only update the user's profile with data gathered from a first successful password entry in time to use the updated profile to authenticate the user upon a second password entry. Brown is simply silent as to real-time operation. Thus Brown fails to teach this element of claim 2. The remainder of the Brown/Sasaki/Matchett combination similarly fails to teach this element of this claim. This claim is thus properly allowable for at least this reason.

### Claims 4-5, 7-8, 14, 20-23 and 28

Claims 4-5, 7-8, 14, 20-23 and 28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Brown in view of Sasaki and Matchett, further in view of Japanese App. No. 2002222051 to Usui.

The rejected claims depend from independent claims 1 and 9. As set forth above, claims 1 and 9 would not have been obvious in view of Brown, Sasaki and Matchett. Usui does not provide for the deficiencies in these references.

Further, Usui fails to disclose additional features recited within claims 4-5, 7-8, 14, 20-23 and 28.

The Office action argues that Usui teaches a system wherein the data interception unit is configured to characterize "movement based on at least one of average speed, average travelled distance, and direction of movement" (claims 5 and 8), is configured to identify "action from a mouse as one of drag and drop, point and click, mouse movement, and silence" (claim 7), and is configured to identify "data based on mouse movement between first and second locations, wherein movement between the first and second locations is not associated with a mouse click" (claim 4). The Office action also argues that Usui teaches a system wherein the behavior comparison unit is "configured to produce the user identity result based on mouse movement speed compared to traveled distance, average speed per direction of movement, a distribution of movement directions, average speed with respect to action type, a distribution of actions, a distribution of traveled distance, and a distribution of movement elapsed time" (claim 20).

The Office action also argues that Usui teaches a method wherein the biometric data is based on "mouse movement between first and second locations, wherein movement between the first and second locations is not associated with a mouse click" (claim 22), which comprises "characterizing mouse movement based on at least one of average speed, average traveled distance, and direction of movement" (claim 14), wherein "the signature for the user is developed based on movement speed compared to traveled distance, average speed per direction of movement, distribution of movement directions, average speed with respect to action type, a distribution of actions, a distribution of traveled distance, and a distribution of movement elapsed time" (claim 21), wherein "the behavioral biometric information from the mouse is obtained in a background process" (claim 23), and wherein "the signature for the user is developed based on a distribution of traveled distances" (claim 28).

For each of these assertions, the Office action cites Usui's Text of Basic Abstract. Applicant respectfully disagrees. As best understood, Usui discloses a computer mouse device with means for making an on-screen index move slightly in either a lengthwise or a transverse

direction. The disclosure is directed primarily at describing the physical means for making the index move. This reference, as best understood, discloses none of the elements recited above for claims 4, 5, 7, 8, 14, 20-23 and 28. Applicant believes that Usui as a whole fails to disclose any these elements, but notes in addition that the cited Text of Basic Abstract is especially sparse and discloses nothing relevant to user authentication technology.

Even if Usui did disclose any of these elements, however, the Usui reference is directed to the physical construction and design of a computer mouse device, and has no relation to the technology of user authentication. There is no indication that the technology disclosed would be of use in the user authentication field, and a person of ordinary skill in the art would not have thought it obvious to combine the references as indicated by the examiner. For at least these reasons, claims 4, 5, 7, 8, 14, 20-23 and 28 are properly allowable.

*Claim Rejections – 35 U.S.C. § 112*

Claims 1-5, 7-8, 19-20 and 24-26

Claims 1-5, 7-8, 19-20 and 24-26 are rejected under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office Action argues that the claims recite means plus function limitations, invoking 35 U.S.C. § 112, sixth paragraph, and that the written description fails to clearly link or associate the claimed function to the disclosure. Applicant respectfully disagrees.

To trigger the means plus function construction of 35 U.S.C. § 112, sixth paragraph, a claim must recite "a means or step for performing a specified function without the recital of structure, material, or acts in support thereof." Independent claims 1, 25 and 26 each recite a "data interception unit," a "behavior analysis unit," and a "behavior comparison unit." These recitations define structure, and thus do not implicate 35 U.S.C. § 112, sixth paragraph. It is noted that none of claims 1, 25 or 26 recites a "means for" or a "step for" performing any function.


For at least these reasons, independent claims 1, 25 and 26 are not properly construed as means plus function claims. Accordingly, applicant respectfully requests that the § 112 rejection be withdrawn.

Based on the foregoing, Applicants respectfully submit that the claims are directed to allowable subject matter and that the application is in condition for allowance. Should the Examiner believe that anything further is necessary to place this application in better condition for allowance, the Examiner is requested to contact Applicants' representative by telephone.

Respectfully submitted,

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By



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